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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SWERDLOW, DANIEL

ART UNIT PAPER NUMBER

2644

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/597,154

Applicant(s)

OLSON, GREGORY DAVID

Examiner

Daniel Swerdlow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1 through 4, 6 through 10, 13, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pett et al. (US Patent 6,240,178) in view of Atkinson et al. (US Patent 5,093,856).
3. Regarding Claim 1, Pett discloses a subscriber loop (i.e., digital signal line transmission) system (Fig. 3; column 2, lines 28-45) comprising: a subscriber loop (i.e., communication line) (Fig. 3, reference 30) between a central office (i.e., carrier) (Fig. 3, reference 22) and a customer premises (i.e., user terminal) (Fig. 3, reference 26); a bridged tap (i.e., a bridgetap line connected to the communication line) (Fig. 3, reference 32); a bridged tap terminator (i.e., adaptor) (Fig. 3, reference 50) connected to the bridged tap; the terminator (i.e. adaptor) including a capacitor (Fig. 7; reference CA, CL) and therefore inherently having a capacitance; wherein the adapter provides impedance matching (column 1, lines 61-63) that inherently reduces reflections (i.e., echoes) and improves reception of signals (i.e., rate of data transmission). Therefore, Pett anticipates all elements of Claim 1 except the adaptor including a capacitor in parallel with one of another capacitor and a diode. Atkinson discloses the use of a diode (Fig. 2, reference 235; column 4, lines 45-47) to protect components from surges on a telephone line. It would have been obvious to one skilled in the art at the time of the invention to apply the parallel diode as taught by Atkinson to the capacitor in the system taught by Atkinson for the purpose of protecting the capacitor from surges.

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4. Regarding Claim 2, as shown above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except the capacitance being between approximately 0.04 and 2.0 microfarads. Pett does not disclose expressly the capacitance being between approximately 0.04 and 2.0 microfarads. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize capacitance between approximately 0.04 and 2.0 microfarads. Applicant has not disclosed that the capacitance being between approximately 0.04 and 2.0 microfarads provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a capacitance of 0.023 microfarads (Pett: column 5, lines 25-29) because of the extreme variability in the properties of the bridged tap. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of Pett and Atkinson to obtain the invention as specified in Claim 2.

5. Regarding Claim 3, as shown above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except the capacitance being approximately 0.05 microfarads. Pett does not disclose expressly the capacitance being approximately 0.05 microfarads. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize capacitance of approximately 0.05. Applicant has not disclosed that the capacitance being approximately 0.05 microfarads provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a capacitance of 0.023 microfarads (Pett: column 5, lines 25-29) because of the extreme variability in the properties of

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the bridged tap. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of Pett and Atkinson to obtain the invention as specified in Claim 3.

6. Regarding Claim 4, as shown above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except the capacitance being approximately 0.068 microfarads. Pett does not disclose expressly the capacitance being approximately 0.068 microfarads. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize capacitance of approximately 0.068. Applicant has not disclosed that the capacitance being approximately 0.068 microfarads provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a capacitance of 0.023 microfarads (Pett: column 5, lines 25-29) because of the extreme variability in the properties of the bridged tap. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of Pett and Atkinson to obtain the invention as specified in Claim 4.

7. Regarding Claim 6, the additional recitation, "said adaptor changes a resonance characteristic of said bridgetap line to that of a bridgetap line that is approximately 300 feet longer" does not patentably distinguish the claim. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See *in re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997).

8. Claims 7, 9 and 10 are similarly directed to recitations of function rather than structure.

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9. Regarding Claim 8, as shown above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except the bridgetap splicing into the line within approximately 1000 feet from the user terminal. Applicant discloses as prior art a bridgetap within approximately 1000 feet from the user terminal (disclosure: Fig. 1, reference A, B; p. 2, lines 13-14). It would have been obvious to one skilled in the art at the time of the invention to select a bridgetap within 1000 feet of the user terminal as is admitted as prior art for the bridged tap terminator taught by Pett for the purpose of mitigating degradation caused by the bridgetap.

10. Regarding Claim 13, Pett further discloses the terminator connected at the other end of the bridged tap from the subscriber loop (Fig. 3, reference 30, 32, 50).

11. Regarding Claim 22, Pett discloses terminating a bridged tap (Fig. 3, reference 32) on a subscriber loop (i.e., communication line) (Fig. 3; column 2, lines 28-45) between a central office (i.e., carrier) (Fig. 3, reference 22) and a customer premises (i.e., user terminal) (Fig. 3, reference 26) with a capacitance of 23 nanofarads (0.023 microfarads). The capacitance of 26 gauge telephone line is on the order of 0.07 microfarads per mile (see Reference Data for Radio Engineers, p. 111). As such, the terminator disclosed by Pett adds capacitance (i.e., a resonance characteristic) equivalent to an additional bridged tap length of $(0.023/0.07)$ 5280 feet or 1740 feet. As such, the terminator disclosed by Pett inherently changes the capacitance of the bridged tap to that of a bridgetap longer than 650 feet. Therefore, Pett anticipates all elements of Claim 22 except the adaptor including a capacitor in parallel with one of another capacitor and a diode. Atkinson discloses the use of a diode (Fig. 2, reference 235; column 4, lines 45-47) to protect components from surges on a telephone line. It would have been obvious to one skilled in the art

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at the time of the invention to apply the parallel diode as taught by Atkinson to the capacitor in the system taught by Atkinson for the purpose of protecting the capacitor from surges.

12. Regarding Claim 23, Pett further discloses providing DSL (i.e., digital subscriber line) service (column 3, lines 10-22).

13. Claims 5, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pett in view of Atkinson and further in view of Schmidt et al. (US Patent 6,389,109).

14. Regarding Claim 5, as stated above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except a bridgetap line length between approximately 250 and 650 feet. Schmidt discloses substantial degradation due to bridged taps of length between about 200 and 700 feet (column 9, lines 63-67). It would have been obvious to one skilled in the art at the time of the invention to select bridged tap lengths between about 250 and 600 feet as taught by Schmidt for the bridged tap terminator taught by Pett for the purpose of mitigating the degradation.

15. Regarding Claim 24, Pett discloses a subscriber loop (i.e., **digital signal line transmission**) system (Fig. 3; column 2, lines 28-45) **comprising: a subscriber loop (i.e., communication line) (Fig. 3, reference 30) between a central office (i.e., carrier) (Fig. 3, reference 22) and a customer premises (i.e., user terminal) (Fig. 3, reference 26); a bridged tap (i.e., a bridgetap line connected to the communication line) (Fig. 3, reference 32); a bridged tap terminator (i.e., adaptor) (Fig. 3, reference 50) connected to the bridged tap; the terminator (i.e. adaptor) having a capacitance (Fig. 7; reference CA, CL).** As such, Pett anticipates all elements except the adaptor including a capacitor in parallel with one of another capacitor and a

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diode and the capacitance being between approximately 0.04 and 2.0 microfarads and a bridgetap line length between approximately 250 and 650 feet. Atkinson discloses the use of a diode (Fig. 2, reference 235; column 4, lines 45-47) to protect components from surges on a telephone line. It would have been obvious to one skilled in the art at the time of the invention to apply the parallel diode as taught by Atkinson to the capacitor in the system taught by Atkinson for the purpose of protecting the capacitor from surges. Schmidt discloses substantial degradation due to bridged taps of length between about 200 and 700 feet (column 9, lines 63-67). It would have been obvious to one skilled in the art at the time of the invention to select bridged tap lengths between about 250 and 600 feet as taught by Schmidt for the bridged tap terminator taught by Pett for the purpose of mitigating the degradation. Therefore, the combination of Pett, Atkinson and Schmidt makes obvious all elements except the capacitance being between approximately 0.04 and 2.0 microfarads. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize capacitance between approximately 0.04 and 2.0 microfarads. Applicant has not disclosed that the capacitance being between approximately 0.04 and 2.0 microfarads provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a capacitance of 0.023 microfarads (Pett: column 5, lines 25-29) because of the extreme variability in the properties of the bridged tap. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of Pett, Atkinson and Schmidt to obtain the invention as specified in Claim 24.

16. Regarding Claim 25, Pett further discloses providing DSL (i.e., digital subscriber line) service (column 3, lines 10-22).

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pett in view of Atkinson and further in view of Martin (US Patent 4,622,442). As stated above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except the capacitance having a voltage rating of at least 150 volts. Schmidt discloses lightning induces voltages as large as 1000 volts in subscriber loops (column 5, lines 33-36). It would have been obvious to one skilled in the art at the time of the invention to select a capacitor voltage rating to withstand expected lightning induced voltages as large as 1000 volts as taught by Martin in the bridged tap terminator taught by Pett for the purpose of avoiding destruction of the terminator.

18. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pett in view of Atkinson and further in view of Charles et al. (US Patent 4,622,442). As stated above apropos of Claim 1, the combination of Pett and Atkinson makes obvious all elements except the adaptor being water-tight. Charles discloses the use of a water-tight enclosure for outside plant equipment (column 3, lines 7-10). It would have been obvious to one skilled in the art at the time of the invention to use a water-tight enclosure as taught by Charles for the bridged tap terminator taught by Pett for the purpose of protecting the terminator against adverse weather conditions, water infiltration and corrosive environments.

19. Claims 14 through 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pett in view of Atkinson and further in view of Schmidt and further in view of Martin and further in view of Charles.

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20. Claim 14 is essentially similar to Claim 2 with the additional limitations of Claims 5, 12 and 13. In addition, as stated above apropos of Claim 13, Pett further discloses the terminator connected at the other end of the bridged tap from the subscriber loop. Therefore, as stated above apropos of Claim 2, the combination of Pett and Atkinson is shown to make obvious all elements except a bridgetap line length between approximately 250 and 650 feet and the adaptor being water-tight. Schmidt discloses substantial degradation due to bridged taps of length between about 200 and 700 feet (column 9, lines 63-67). It would have been obvious to one skilled in the art at the time of the invention to select bridged tap lengths between about 250 and 600 feet as taught by Schmidt for the bridged tap terminator taught by Pett for the purpose of mitigating the degradation. Charles discloses the use of a water-tight enclosure for outside plant equipment (column 3, lines 7-10). It would have been obvious to one skilled in the art at the time of the invention to use a water-tight enclosure as taught by Charles for the bridged tap terminator taught by Pett for the purpose of protecting the terminator against adverse weather conditions, water infiltration and corrosive environments.

21. Regarding Claim 15, as shown above apropos of Claim 14, the combination of Pett, Atkinson, Schmidt, Martin and Charles is shown to make obvious all elements except the capacitance being approximately 0.05 microfarads. The combination does not disclose expressly the capacitance being approximately 0.05 microfarads. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize capacitance of approximately 0.05 microfarads. Applicant has not disclosed that the capacitance being approximately 0.05 microfarads provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's

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invention to perform equally well with a capacitance of 0.023 microfarads (Pett: column 5, lines 25-29) because of the extreme variability in the properties of the bridged tap. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination to obtain the invention as specified in Claim 15.

22. Regarding Claim 16, as shown above apropos of Claim 14, the combination of Pett, Atkinson, Schmidt, Martin and Charles is shown to make obvious all elements except the capacitance being approximately 0.068 microfarads. The combination does not disclose expressly the capacitance being approximately 0.068 microfarads. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize capacitance of approximately 0.068 microfarads. Applicant has not disclosed that the capacitance being approximately 0.068 microfarads provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a capacitance of 0.023 microfarads (Pett: column 5, lines 25-29) because of the extreme variability in the properties of the bridged tap. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination to obtain the invention as specified in Claim 16.

23. Regarding Claim 17, the additional recitation, "said adaptor changes a resonance characteristic of said bridgetap line to that of a bridgetap line that is approximately 300 feet longer" does not patentably distinguish the claim. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See *in re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

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24. Claims 18, 20 and 21 are similarly directed to recitations of function rather than structure.

25. Regarding Claim 19, as shown above apropos of Claim 14, the combination of Pett, Atkinson, Schmidt, Martin and Charles is shown to make obvious all elements except the bridgetap splicing into the line within approximately 1000 feet from the user terminal. Applicant discloses as prior art bridgetap within approximately 1000 feet from the user terminal (disclosure: Fig. 1, reference A, B; p. 2. lines 13-14). It would have been obvious to one skilled in the art at the time of the invention to select a bridgetap within 1000 feet of the user terminal as is admitted as prior art for the combination of Pett, Atkinson, Schmidt, Martin and Charles for the purpose of mitigating degradation caused by the bridgetap.

Response to Arguments

26. Applicant's arguments filed 22 July 2004 have been fully considered but they are not persuasive.

27. Regarding Claims 1, 14 and 22, applicant alleges that the cited prior art fails to disclose a capacitor in parallel with one of another capacitor or a diode. Examiner respectfully disagrees. As shown above in the rejections of these claims, Atkinson teaches that a parallel diode protects components from surges on telephone lines. As such, teaching and motivation to combine for this element are shown.

28. Regarding Claims 1, 14 and 22, applicant further alleges that the cited prior art fails to disclose reduction of the effect of echo on a rate of data transmission. Examiner respectfully disagrees. As shown above in the rejections of these claims, Pett teaches a bridge tap terminator that includes impedance matching. It is well known in the art that impedance matching between

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a transmission line and a load reduces reflections (i.e., echoes) on the transmission line. Pett further teaches (Fig. 2; column 3, line 61 through column 4, line 4) that the terminator permits more of the DSL bandwidth to be used (i.e., reduction of effect on rate of data transmission). As such, teaching for this element is shown.

29. Regarding Claim 14, applicant alleges that the specification discloses increased data transmission rates associated with capacitance values claimed. Examiner respectfully disagrees. The portions of the specification cited (i.e., pages 6 and 7) disclose only that a capacitance in the range claimed will achieve the desired result and not that other ranges or values will not. Further, while applicant discloses certain values "are preferred" for certain wire gauges, there is no disclosure that indicates that these values provide an advantage, are used for a particular purpose or solve a stated problem relative to values outside the range.

30. Applicant has made no arguments regarding Claim 24.

31. Applicant's arguments regarding dependant claims are limited to their dependence from the independent claims. As such, these arguments are unpersuasive for the reasons stated above.

Conclusion

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER